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David Jau Young Lee

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EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/589,974

Applicant(s)

LEE ET AL.

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. In view of the Appeal Brief filed on 26 December 2006, PROSECUTION IS HEREBY REOPENED. A new rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claims 1, 2, 5, 6, and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Frid et al. (USPN 6,137,791), of record.

4. Regarding claim 1, Frid discloses an internet protocol-based cellular telephone communications system, comprising: a router (col. 4, lines 16-27, where the VMSC (ref. 40) is, as broadly defined, "a router" since it performs "routing and processing [of] communicated data"); a foreign agent (FA), coupled to the router (Fig. 3 and col. 7, lines 52-55, where the VMSC, i.e. a "router," establishes an IP communication link with foreign agent (ref. 310)); a base transceiver station (BTS), coupled to the router, for communicating with a mobile telephone within a transmission area associated with the base transceiver station (Fig. 3 and col. 4, lines 15-18, where the base station, BS (ref. 30), is coupled to the VMSC, i.e. the "router," and where a mobile telephone within a transmission area of the BS communicates with the BS, see also col. 4, lines 29-36), wherein the router communicates with the BTS using a cellular network interface (col. 7, lines 34-40, where "the only mobile telecommunications nodes utilized for effectuating the communication of packet data with a mobile station are the VMSC 40 and base station 30," such that the VMSC and BS are part of the cellular communication network and so communicate with each over "using a cellular network interface," see also col. 4, lines 15-21, where normal voice data is communicated through the BS and VMSC); and a home agent (HA), coupled to the router (Fig. 3 and col. 7, lines 15-32, where the home agent (ref. 320) is indirectly coupled to the VMSC, i.e. the "router," through the foreign agent (ref. 310)), wherein the home agent communicates with the router and the foreign agent for registering mobile telephones (col. 7, lines 9-21, where the VMSC, the foreign agent, and the home agent communicate with each other to register the mobile station with the home agent) and transmitting messages using an

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internet-protocol network separate from the cellular network (col. 7, lines 52-55, where the VMSC, i.e. the “router,” and the foreign agent communicate with each other over IP communication link 420, and col. 7, lines 58-62, where the home agent and the foreign agent communicate with each other over IP tunnel 440, such that all communication between VMSC, HA, and FA occurs over IP, i.e. “an internet-protocol network separate from the cellular network,” see also col. 7, lines 22-33, where the “HA 320 then reroutes the received packet data to the connected FA/SR 310 by similarly encapsulating the received IP packet within another IP packet addressed to the FA/SR,” such that communication between HA and FA occurs over IP); wherein messages are transmitted using the internet protocol network between the home agent and the router (col. 7, lines 52-55, where the VMSC, i.e. the “router,” and the foreign agent communicate with each other over IP communication link 420, and col. 7, lines 58-62, where the home agent and the foreign agent communicate with each other over IP tunnel 440, such that all communication between VMSC, HA, and FA occurs over IP), and messages are transmitted using the cellular network interface between the router and the base transceiver station (col. 7, lines 34-40, where “the only mobile telecommunications nodes utilized for effectuating the communication of packet data with a mobile station are the VMSC 40 and base station 30,” such that the VMSC and BS are part of the cellular communication network and so communicate with each over “using a cellular network interface”).

5. Regarding claim 2, Frid discloses a second BTS, wherein a handoff between the BTS and the second BTS is performed through the internet protocol network (col. 7, line 46-col. 8, line 12, where all of the handover procedures occurring between the VMSC, the HA, and the FA occur over the internet protocol network).

6. Regarding claim 5, Frid discloses that the HA directs a message to the mobile telephone using an internet protocol address (col. 7, lines 22-33, where the “[i]ncoming packet data [is] addressed to the IP address associated with the mobile station” and the HA “reroutes the received packet data to the connected FA/SR 310 by similarly encapsulating the received IP packet within another IP packet addressed to the FA/SR 310,” such that the HA directs a message to the mobile telephone using an internet protocol address).

7. Regarding claim 6, Frid discloses an internet protocol-based cellular telephone communications system, comprising: a handoff server (HS) (col. 7, lines 51-60, where the VMSC (ref. 40) is, as broadly defined, a “handoff server” since it is involved in the handoff process); a base transceiver station (BTS), coupled to the handoff server, for communicating with a mobile telephone within a transmission area associated with the base transceiver station (Fig. 3 and col. 4, lines 15-18, where the base station, BS (ref. 30), is coupled to the VMSC, i.e. the “handoff server,” and where a mobile telephone within a transmission area of the BS communicates with the BS, see also col. 4, lines 29-36), wherein the handoff server communicates with the base transceiver station using a cellular network interface (col. 7, lines 34-40, where “the only mobile telecommunications nodes utilized for effectuating the communication of packet data with a mobile station are the VMSC 40 and base station 30,” such that the VMSC and BS are part of the cellular communication network and so communicate with each over “using a cellular network interface,” see also col. 4, lines 15-21, where normal voice data is communicated through the BS and VMSC); and a home agent (HA), coupled to the handoff server (Fig. 3 and col. 7, lines 15-32, where the home agent (ref. 320) is indirectly coupled to the VMSC, i.e. the “handoff server,” through the foreign agent (ref. 310)), wherein

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the home agent communicates with the handoff server for transmitting messages using an internet-protocol network separate from the cellular network (col. 7, lines 52-55, where the VMSC, i.e. the "handoff server," and the foreign agent communicate with each other over IP communication link 420, and col. 7, lines 58-62, where the home agent and the foreign agent communicate with each other over IP tunnel 440, such that all communication between VMSC, HA, and FA occurs over IP, i.e. "an internet-protocol network separate from the cellular network," see also col. 7, lines 22-33, where the "HA 320 then reroutes the received packet data to the connected FA/SR 310 by similarly encapsulating the received IP packet within another IP packet addressed to the FA/SR," such that communication between HA and FA occurs over IP); wherein messages are transmitted using the internet protocol network between the home agent and the handoff server (col. 7, lines 52-55, where the VMSC, i.e. the "handoff server," and the foreign agent communicate with each other over IP communication link 420, and col. 7, lines 58-62, where the home agent and the foreign agent communicate with each other over IP tunnel 440, such that all communication between VMSC, HA, and FA occurs over IP), and messages are transmitted using the cellular network interface between the handoff server and the base transceiver station (col. 7, lines 34-40, where "the only mobile telecommunications nodes utilized for effectuating the communication of packet data with a mobile station are the VMSC 40 and base station 30," such that the VMSC and BS are part of the cellular communication network and so communicate with each over "using a cellular network interface").

8. Regarding claim 9, Frid discloses that a handoff of a mobile telephone between the BTS and a second BTS within the cellular telephone communications system is handled through the

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handoff server (col. 7, line 46-col. 8, line 12, where the VMSC, i.e. the "handoff server," is responsible for establishing the new links after a handoff has occurred).

9. Regarding claim 10, Frid discloses that the mobile telephone communicates directly through the handoff server during the handoff between the BTS and the second BTS (col. 7, line 46-col. 8, line 12, where all communications between FA and BTS during a handoff are routed through the VMSC, until the handover is complete and the new VMSC takes over).

10. Regarding claim 11, Frid discloses that a handoff between the BTS and a second BTS is anchored through the first BTS until updates can be made at the HA (col. 7, line 46-col. 8, line 12, where the handover is completed when the new FA/SR, i.e. FA/SR2, contacts the HA to establish a new IP tunnel, such that, until the HA is contacted, all communications to the mobile are anchored through the first BTS).

11. Regarding claim 12, Frid discloses a method for communicating over an internet protocol-based communications network, comprising: sending a message from a home agent (HA) to a router over an internet protocol based network (col. 7, lines 52-55, where the VMSC, i.e. the "router," and the foreign agent communicate with each other over IP communication link 420, and col. 7, lines 58-62, where the home agent and the foreign agent communicate with each other over IP tunnel 440, such that all communication between VMSC, HA, and FA occurs over IP, i.e. "an internet-protocol network separate from the cellular network," see also col. 7, lines 22-33, where the "HA 320 then reroutes the received packet data to the connected FA/SR 310 by similarly encapsulating the received IP packet within another IP packet addressed to the FA/SR," such that communication between HA and FA occurs over IP), forwarding the message from the router to a base transceiver station (BTS) using a cellular network interface, wherein the cellular



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network is not part of the internet protocol based network (col. 7, lines 34-40, where “the only mobile telecommunications nodes utilized for effectuating the communication of packet data with a mobile station are the VMSC 40 and base station 30,” such that the VMSC, i.e. the “router,” and BS, i.e. the “BTS,” are part of the cellular communication network and so communicate with each other “using a cellular network interface,” see also col. 4, lines 15-21, where normal voice data is communicated through the BS and VMSC); and forwarding the message from the base transceiver station to a mobile telephone that is within a geographical communications zone of the base transceiver station (Fig. 3 and col. 4, lines 15-18, where the base station, BS (ref. 30) communicates with mobile telephones that are within a transmission area of the BS, see also col. 4, lines 29-36).

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3, 4, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frid et al. (USPN 6,137,791), of record, as applied to claims 1 and 6 above, and further in view of Olkkonen (WO 98/43456), of record.

14. Regarding claims 3 and 7, Frid does not expressly disclose that a soft hand off (SHO) is performed between the BTS and the second BTS. Examiner takes official notice that soft hand offs are very old and well known in the art since soft hand offs reduce the probability that a connection will be dropped during hand off. Therefore, it would have been obvious to one of

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ordinary skill in the art at the time of the invention to have the hand off be a soft hand off in order to decrease the probability that a connection will be dropped during hand off.

Frid does not expressly disclose using asynchronous transfer mode (ATM) communications between the router and the BTS and the router and the second BTS; however, Frid does suggest that the VMSC, i.e. the "router," will communicate between different BTSs during a handover (Fig. 3, where a single VMSC is connected to two separate base stations, such that any handover between these two base stations will require the VMSC to communicate with both base stations). Olkkonen teaches, in a mobile communication system, using ATM to communicate within mobile network transmission systems in order to increase capacity and flexibility (page 8, line 33-page 9, line 2, see also page 11, line 11-page 12, line 33). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use asynchronous transfer mode (ATM) communications between the router and the BTS and the router and the second BTS in order to increase capacity and flexibility in the system.

15. Regarding claims 4 and 8, Frid in view of Olkkonen suggests that the SHO is performed using ATM between the BTS and the second BTS and the mobile telephone (Olkkonen: page 11, line 11-page 12, line 33).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 8:00am-4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel J. Ryman  
Examiner  
Art Unit 2616

*DJR*



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